Dry Weather Screening Plan for Stormwater Outfalls

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Dry Weather Screening Plan Modifications

Table 0-1: Modifications to UDOT's Dry Weather Screening Plan

Mod. No.	Date	Brief Description	Approved By	Date
1	4/18/2017	Moved content on IC/ID investigation procedures to the IDDE Plan. Identified UDOT's procedure for outfall screening. Made several minor editorial changes.	Jeanne Riley	4/26/2017

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1 Dry Weather Screening Plan

1.0 Introduction

Dry weather screening at stormwater outfalls is part of UDOT's Illicit Discharge Detection and Elimination (IDDE) Plan to identify potential illicit discharges and locate illegal connections. The objective of this activity is to eliminate sources of non-stormwater discharges to the MS4 and Waters of the State. The MS4 Permit requires that stormwater outfalls be screened at least once during the Permit term.

Dry weather screening involves identifying stormwater outfall locations, performing field investigations during periods of dry weather and assessing the potential for illicit discharges. Observations of non-stormwater flow at outfalls can reveal information about the pollutant type and possible source for locating the connection and eliminating the discharge. This plan describes procedures that will be implemented to perform this activity.

Dry weather screening will be performed on all stormwater outfalls that are located within the Department's right of way where the drainage system discharges to Waters of the State. Drainage system's that discharge into detention and retention basins will not be screened unless the basin discharges to a Waters of the State.

"Waters of the State" means all streams, lakes, ponds, marshes, water-courses, waterways, wells, springs, irrigation systems, drainage systems, and all other bodies or accumulations of water, surface and underground, natural or artificial, public or private which are contained within, flow through, or border upon this state or any portion thereof, except bodies of water confined to and retained within the limits of private property, and which do not develop into or constitute a nuisance, or a public health hazard, or a menace to fish and wildlife which shall not be considered to be "Waters of the State" under this definition (UAC R317-1-1).

1.1 Outfall Screening Priority

Review the list of outfall locations for the Region and the UPLAN map layer titled "Storm Drain Systems". The UPLAN map layer shows drainage system networks, related features, outfall locations and names of receiving waters.

Access the areas that are adjacent to the outfall locations and prioritize the outfall. Certain areas and land use types are more likely to have illegal connections to storm drainage systems to dispose of waste materials. It is important to prioritize outfall screening efforts to locate the highest risk pollutants to minimize impacts to the most sensitive areas. The categories for outfalls are:

- High Priority:
    - Outfalls to waters where UDOT is listed on a TMDL
    - Industrial areas
    - Areas with a history of illegal discharges

- Medium Priority:
    - Outfalls discharging directly to impaired water bodies (Clean Water Act Section 303d impaired water bodies)
    - Commercial areas
    - Mixed use areas – combined commercial and residential areas
- Low Priority:
    - Residential areas
    - Areas where there is no potential to connect into the storm drainage system.

Schedule visits to outfall locations by visiting high priority outfalls first, followed by medium and low priority outfalls.

2 Screening Parameters

During the outfall screening process, stormwater discharges during dry conditions are evaluated and investigated for the following physical characteristics:

- Odor
- Color
- Clarity
- Floatables
- Deposits/Stains
- Adjacent Vegetation

A field data sheet will be completed for every outfall inspected. Follow-up activities will be conducted for locations where pollutants indicate possible illicit discharges. If observations indicate possible pollutant discharges, the drainage system upstream will be investigated in further detail to determine the source of the discharge. Findings will be reported to the local Health Department for action to eliminate the illicit discharge. All enforcement actions taken will be documented.

2.1 Physical Characteristics

Physical Characteristics are useful in determining potential illicit stormwater discharges. The parameters described below should be investigated as part of this activity.

- *Odor* – Odor can sometimes indicate the source of contamination. Industrial discharges may result in an odor that would suggest contamination from oil, gasoline, chemicals or solvents. Industries related to food production could discharge organic substances into drainage facilities which would convey associated odors downstream.
- *Color – Color is another indicator of illicit discharges, especially from industrial sources.*

Color	Possible Source
• Brown, Gray or Black	• Industrial Sources
• Reddish-Brown	• Meat Processing
• Yellow	• Plating Mill Industries

- *Clarity* **–** Dry weather discharges that are cloudy may result from concrete mixing or stone related industries. In addition, sanitary wastewater can be cloudy.

- *Floatable Matter* **–** Illicit discharges may also have floatable matter that could indicate possible sources.

- *Deposits and Stains* – Deposits and stains can remain on surfaces after illicit discharges have ceased. However, not all deposits are the result of illicit discharges. Natural water sources that have a high degree of natural hardness may result in deposits at the flow line of pipes and at outlet structures.

- *Vegetation* **-** Vegetation adjacent to the outfall could be affected if the discharge is other than stormwater. Plant growth may be stunted if the dry weather discharge is too acidic. Plants will continue to show effects of contamination even after the flow has ceased

3 Screening Procedures

- Plan site visits to drainage outfalls during periods of low ground water and dry weather (no precipitation in the last 72 hours).
- Conduct all outfall inspections with at least two staff.
- Wear appropriate personal protective equipment and safety clothing that meets UDOT standards.
- Ensure the outfall location is accessible; perform the inspection only if safe to do so.
- Inspect the outfall and document findings on the “Dry Weather Screening Inspection Report”
- Do not enter the drainage feature or outlet pipe unless procedures are followed for permitted confined spaces.
- If observations indicate that illicit discharges have occurred, Notify the UDOT Region Safety/Risk Manager. Further investigation will be necessary upstream from the outfall to determine the point of entry into the system. Refer to UDOT’s IDDE Plan for “Investigation Procedures for Illicit Discharges"

Appendix A: Dry Weather Screening Inspection Report

Dry Weather Screening Inspection Report

INSPECTION INFORMATION

Inspection Date: _____ *(Inspect during dry periods; 72hrs since pervious storm)*

Inspector Name(s): _____

Outfall ID: _____ Region: _____ County: _____ Route: _____ Milepost: _____

Location Description: _____

Adjacent Land Use(s): □ Commercial □ Industrial □ Agricultural □ Residential

□ Undeveloped □ Institutional □ _____

OUTFALL INFORMATION

Size (Diameter or Dimensions): _____ Material Type: _____

Condition: _____

Receiving Water: _____

Outfall Flow Present? □ Flowing □ Ponded □ Dry

OBSERVATIONS FOR FLOWING OUTFALLS

Odor	Color	Clarity	Floatables	Deposits/ Stains	Adjacent Vegetation
□ None	□ Clear	□ Clear	□ None	□ None	□ None
□ Chemical	□ White	□ Cloudy	□ Oily/Sheen	□ Sediment	□ Normal
□ Sewage	□ Brown	□ Opaque	□ Foamy	□ Oily	□ Excessive
□ Rotten Egg	□ Yellow	□	□ Sewage	□	□ Dead
□	□		□		□

Likely Source of Flow: □ Groundwater/Natural □ Irrigation Water □ Illegal Connection

Is sampling and lab testing needed? Yes □ No □

OBSERVATIONS FOR NON-FLOWING OUTFALLS

Deposits/Stains	Adjacent Vegetation	Outlet Pool Quality	Inside Outfall
□ Oil	□ None	□ Oil Sheen	□ Brown
□ Paint	□ Normal	□ Foam	□ Green
□	□ Excessive	□ Excessive Algae	□ Red
	□ Dead	□	□

CONCLUSION

Is it likely that an illicit discharged occurred upstream? Yes □ No □

If Yes, Notify the UDOT Region/Safety Risk Manager.